

Heavily oiled salt marsh and the *Deepwater Horizon* oil spill: Shoreline treatment, planting, and recovery

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The *Deepwater Horizon* oil spill (2010) resulted in heavy oiling that impacted salt marsh vegetation and required intensive cleanup treatments across several km of shoreline. Oiling conditions and vegetation recovery were compared among reference plots and three types of heavily oiled plots over 2013-2015: oiled control plots (no cleanup treatment); mechanical treatment plots; and mechanical treatment plots coupled with vegetation planting (*Spartina alterniflora*). Mechanical treatment with planting showed the most improvement in oiling conditions and was effective in re-establishing vegetation cover and species composition similar to reference conditions. In contrast, the oiled controls and mechanical treatment plots without planting were similar to each other and showed poor recovery of vegetation structure and composition. Vegetation planting should be considered as a spill response or emergency restoration option for heavily oiled salt marshes, especially where intensive treatments are used, impacted areas are left largely unvegetated, natural recovery may be delayed, and/or marsh shorelines are at risk of erosion.